

AMENDMENT TO THE CLAIMS

Please cancel claims 25, 31, 34 and 37-39 without prejudice; amend claims 24, 26, 27, 30, 32, 33, 35 and 36, matter to be deleted is shown in strike through and matter to be added is shown in underlines as follows:

Claims 1-20 (cancelled)

21. (previously presented) A method of operating an oil burner, comprising the steps of:

- a) providing a source of oil;
- b) providing a source of heated liquid;
- c) providing a manifold constructed of a thermally transmissive material and having first, second and third internal passageways formed into said material, and supporting a nozzle having an oil distribution port to said manifold to either block or unblock an outlet port of said third passageway;
- e) coupling said sources of said oil to said first passageway and said heated liquid to said second passageway, wherein said first passageway communicates with said oil distribution port, and wherein said first, second and third passageways are arranged in said manifold such that heat from said heated liquid is transferred through said manifold to elevate the temperature of said oil immediately prior to being admitted to said nozzle; and
- f) igniting the hot oil upon discharge from said oil distribution port.

22. (previously presented) A method as set forth in claim 21 including the step of providing a source of pressurized air; coupling said source of pressurized air to said third passageway; providing said nozzle with air atomizing ports and supporting said nozzle in

an unblocked condition relative to the outlet port of said third passageway such that said pressurized air communicates with said atomizing ports, and whereby said heated oil is atomized with heated air upon discharge from said nozzle.

23. (previously presented) A method as set forth in claim 22 wherein said first, second and third passageways are arranged within said manifold in displaced tiers, wherein said first passageway includes a portion that transects said second tier and communicates with a first cavity that aligns to said oil distribution port, wherein said third passageway communicates with a second cavity concentrically aligned to said first cavity that supports said nozzle.

24. (currently amended) An oil burner assembly, comprising:

a) a manifold i) constructed of a unitary body of a thermally transmissive material, ii) having first, second and third internal passageways defined in the material, wherein said first, second and third passageways are arranged in displaced tiers, wherein said first passageway includes a portion that transects said second tier and communicates with a distal first cavity, wherein said second passageway communicates with a second cavity coupled to said first cavity, and iii) wherein said first and second cavities are arranged to support either a nozzle with only an oil distribution port or a nozzle with an oil distribution port and an atomizing port and selectively locate a nozzle with only an oil distribution port to block said second passageway supporting a nozzle having an oil distribution port and an atomizing port;

b) sources of oil, air and a heated liquid coupled to said respective first, second and third passageways, such that heated liquid conveyed through said third passageway elevates the temperature of said oil and any admitted air, and wherein said nozzle can be

selectively positioned in said first and second cavities to atomize or not the heated discharged oil with heated air ~~wherein said first, second and third passageways are arranged in said manifold such that heat from said heated liquid is transferred through said manifold to elevate the temperature of said oil and said air, wherein said first passageway communicates with said oil distribution port, wherein said second passageway communicates with said atomizing port, such that heated oil discharged from said nozzle is atomized by heated air discharged from said atomizing port; and~~

c) an igniter mounted to said manifold and aligned to said nozzle to ignite hot atomized oil upon discharge from said nozzle.

Claim 25. Cancelled

26. (currently amended) An oil burner assembly as set forth in claim 24 wherein said first passageway includes a convoluted portion, a riser portion coupled to said convoluted portion that transects a portion of said second passageway ~~and a distal first cavity that aligns with said oil distribution port.~~

27. (currently amended) An oil burner assembly as set forth in claim 24 ~~26~~ ~~wherein said third passageway includes a distal second cavity that aligns with said atomizing port and~~ wherein air admitted to the second cavity is isolated from oil admitted to the first cavity.

28. (previously presented) An oil burner assembly as set forth in claim 24 including a plurality of said atomizing ports, wherein said source of air is pressurized, and wherein a plurality of said atomizing ports direct the heated air to mix with and shape the hot discharged oil into a conical shape.

29. (previously presented) An oil burner assembly as set forth in claim 24 including a fan mounted to mix the hot, atomized oil discharged from said nozzle with combustion air and shape the mixture into a spiral shape.

30. (currently amended) An oil burner assembly as set forth in claim 24 wherein said second passageway includes at a narrowed region whereat the heated air is compressed prior to being admitted to said second cavity and wherein said second cavity is a cavity concentrically aligned to said atomizing port ports.

Claim 31. cancelled

32. (currently amended) An oil burner assembly as set forth in claim 24 ~~wherein said first and third passageways terminate in first and second cavities, wherein said oil distribution port mounts in said first cavity,~~ wherein a seal isolates heated oil from said second cavity, and wherein a narrowed region of said third passageway communicates ~~communicate~~ with said second cavity to increase the pressure of air admitted to the second cavity.

33. (currently amended) An oil burner assembly, comprising:

a) a manifold i) constructed of a unitary body of a thermally conductive material, ii) having first, second and third layered internal passageways defined in the material, and iii) supporting a nozzle having an oil distribution port and an atomizing port, wherein said third passageway is located between said first and second passageways, wherein said first passageway includes a convoluted portion, a riser portion coupled to said convoluted portion that transects a portion of said third ~~second~~ passageway and a distal first cavity that contains ~~aligns with~~ said oil distribution port, and wherein said second ~~third~~ passageway includes a distal second cavity that contains ~~aligns with~~ said atomizing port;

b) sources of oil, air and a heated liquid coupled to said respective first, second and third passageways, ~~wherein said first, second and third passageways are arranged in said manifold~~ such that heat from said heated liquid is transferred through said manifold to elevate the temperature of said oil and said air and, such ~~, such~~ that heated oil discharged from said nozzle is atomized by heated air discharged from said atomizing port, and wherein air admitted to the second cavity is sealed from oil admitted to the first cavity; and

c) an igniter mounted to said manifold and aligned to said nozzle to ignite hot atomized oil upon discharge from said nozzle.

Claim 34. cancelled

35. (currently amended) An oil burner assembly, comprising:

a) a manifold i) constructed of a unitary body of a thermally transmissive material, ii) having first, second and third internal passageways formed in displaced planar tiers defined in the material, wherein said first passageway includes a convoluted portion, a riser portion coupled to said convoluted portion that transects a portion of said second passageway and a distal first cavity and iii) supporting an oil distribution port of a nozzle in said first cavity ~~a nozzle having an oil distribution port;~~

b) sources of pressurized oil and a heated liquid coupled to said respective first and second passageways, wherein said third passageway is adapted to couple to a source of air, wherein said first, second and third passageways are arranged in said manifold such that heat from said heated liquid is transferred through said manifold to elevate the temperature of said oil and any admitted air, ~~and~~ wherein said first passageway communicates with said first cavity ~~oil distribution port~~, such that pressurized, heated oil

is discharged from said nozzle, and wherein air, if admitted to the third passageway, is coupled to an atomizing port of said nozzle and is sealed from oil discharged from said nozzle; and

c) an igniter mounted to said manifold and aligned to said nozzle to ignite hot oil upon discharge from said nozzle.

36. (currently amended) An oil burner assembly as set forth in claim 35 including a second cavity coupled to said third passageway and said first cavity, wherein said first and second cavities respectively contain said oil distribution port and an atomizing port of said nozzle and wherein said third passageway is located to be blocked by a nozzle without an atomizing port ~~an oil pump for pressurizing the heated oil discharged from said nozzle and wherein said nozzle mounts to align with and block said third passageway.~~

Claims 37-39. cancelled